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## China's Defense Conversion: Lessons for the USSR?

Both China and the USSR are struggling to switch militarized economies to more market-based, consumer-oriented systems. The Chinese have moved further along this uncharted path and may offer lessons—both positive and negative—for the Soviets.

China's program was launched in the late 1970s as part of a massive industrial modernization plan. Civilian goods now account for 70 percent of defense industrial output, compared with barely 20 percent a decade ago. The defense sector—still largely state controlled—is producing an impressive array of capital equipment and large quantities of consumer goods for export as well as domestic consumption. A Chinese-sponsored international conversion conference is planned for this fall.

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### The Chinese Approach

China's "conversion" program is equivalent to what the USSR calls "diversification." Under this approach, military production capacity is—in US terminology—"laid away" on site, where it is used far below capacity or not at all while resources are concentrated on civilian production.

This extremely costly system runs counter to advice offered by most US and West European industrial specialists, who recommend "mothballing"

or scrapping excess or obsolete weapons tooling. Lack of confidence in mobilizing industry for a military emergency apparently accounts for Beijing's approach, as well as Moscow's.

Conversion efforts have been complicated by the strategically remote location of China's "third tier" defense industries, which have long isolated the country's best S&T and manufacturing assets from the technology-starved civilian industrial base on the coast (see map, p. 4). In addition to "diversification" at existing weapons plants, a major development is the relocation of personnel and equipment to coastal regions where new, "totally civilian" industrial plants are being spun off.

These new plants are still considered to fall under defense industry auspices, but in some cases they have received financial support from provinces, cities, or towns. Although these government units are partial "owners" of such plants, stock cannot be sold. Individuals hold no equity in the vast majority of these companies.

### Incentives for Defense Industry

Faced with slumping military orders, many defense industrial managers have seen expansion into the successful civilian manufacturing sector as an increasingly attractive alternative. Chinese defense

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Managers are given broad authority to select their own civilian product lines, although a veto power is retained at the ministerial level. The lure of big profits, higher wages, hard currency, and relocation from the remote interior to economically active coastal regions are important factors driving conversion.

Another factor helping the transition is Mao's legacy of preventing too much disparity between the wages and perks in China's military-industrial complex and those in civilian enterprises. The Chinese are not facing the dilemma of Soviet counterparts, who see switching to civilian products as the end of their special privileges.

### Overcoming Obstacles

China's entry into new civilian products has been heavily based on imported technology and equipment. From 1978 to 1987, China imported more than 2,500 pieces of high-technology equipment for the machine-building sector alone, significantly enhancing its capabilities in microelectronics, pharmaceuticals, motor vehicles, and machine tools. Many of these imports have been instrumental in defense plants being able to diversify into civilian production.

Switching to civilian products has been an arduous undertaking on other counts as well. Plants in remote locations face special difficulties establishing contact with domestic or foreign firms that might provide the capital and technology to develop new products. Lack of access to road and rail transport pushes up production costs. Some industries that have made the transition, particularly electronics plants, find it difficult to compete in a rapidly changing marketplace.

Layoffs have been temporarily averted only by some form of bailout from Beijing. A number of plants are receiving national and provincial budgetary subsidies and loans to bridge their move to civilian production.

In some cases Beijing has opted to keep military production lines in operation by expanding weapons

exports. Weapons plants are still state owned and the government continues to guarantee their priority access to raw materials, electricity, and transportation. Hard currency earnings from foreign arms sales have helped fund technical modernization of military plants, although it is unclear to what extent such earnings have been used to aid conversion to civilian production.

Officials maintain it would be impossible to abandon the remote defense "company towns," because of the state's obligation to provide jobs, housing, and other social needs. Rigid socialist habits, combined with lack of experience in tailoring production decisions to market demand, hamper conversion efforts.

### High-Tech Zones

China has two programs, "Torch" and "863," which are designed to promote the commercialization of research work and the advancement of Chinese technology. Military plants interested in conversion are participating in these economic development programs as much as possible to help facilitate transition to civilian production, according to Jin Zhude, director of CAPUMIT (see box p. 6).

Under Torch, announced in 1988, more than 20 national-level zones have been created—many in commercially accessible coastal areas—to develop and manufacture new products for domestic and international markets. The State Council assists the high-tech-zone industries with favorable bank loans, export-promoting regulations, and tax incentives. Zones in the northeast are well placed to take

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Opposite: The Hualong Machinery Factory, a major producer of AK-47 rifles and other small arms, is now making bicycles and exercycles. (Page from CAPUMIT's "Monograph of Ten Years' Integration of Military and Civilian Production of China National Defense Industries," which portrays the results of conversion of 150 defense plants.)

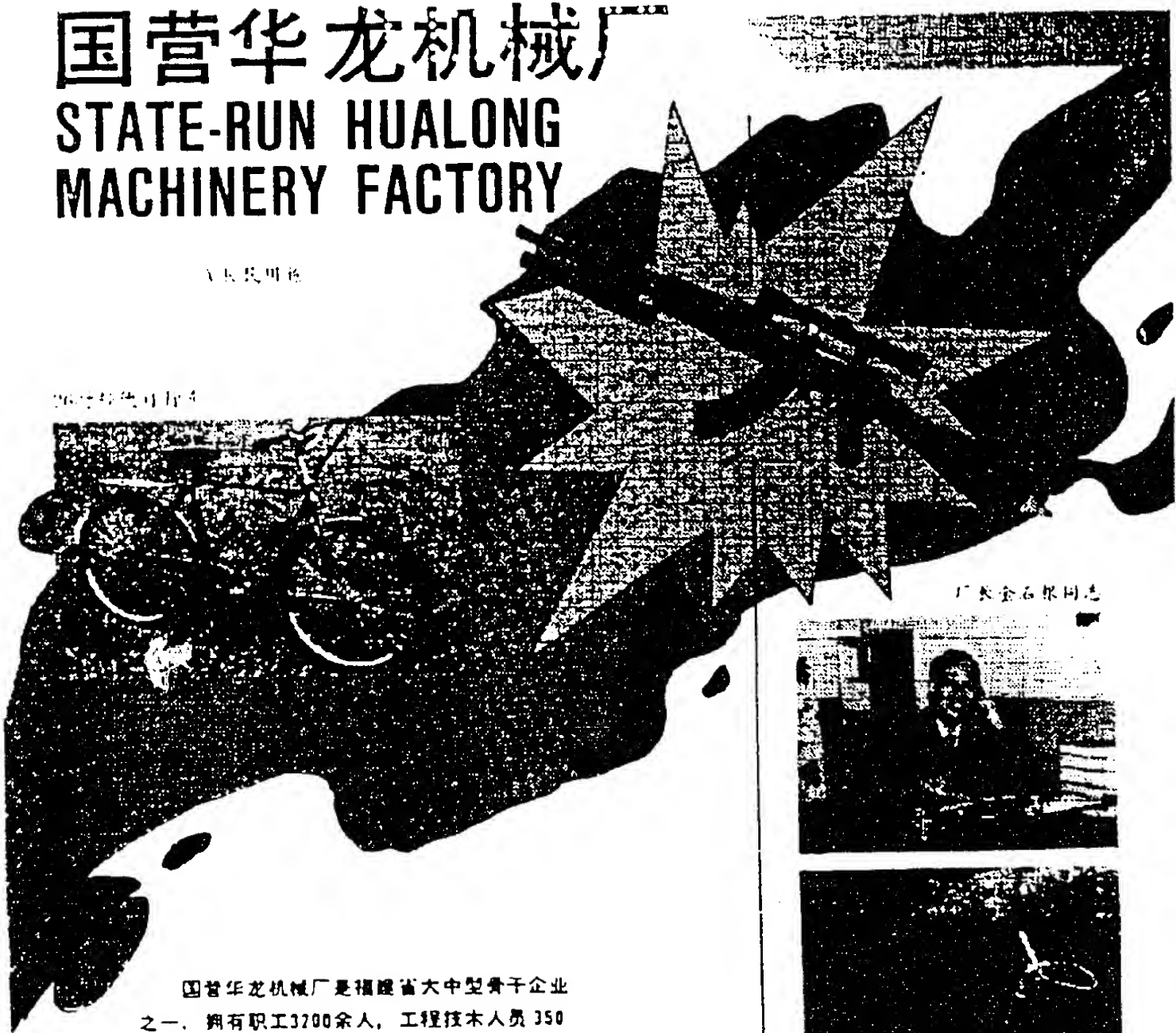
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# 国营华龙机械厂

## STATE-RUN HUALONG MACHINERY FACTORY

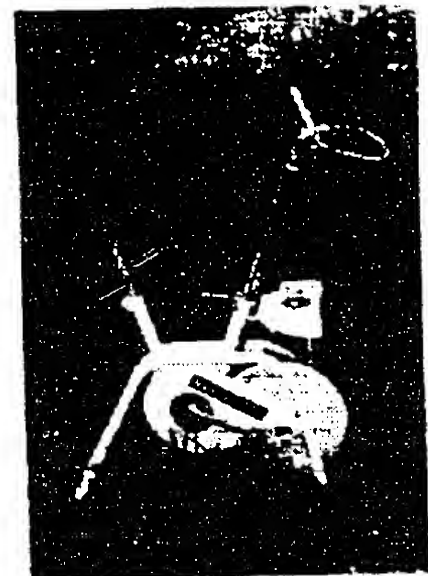
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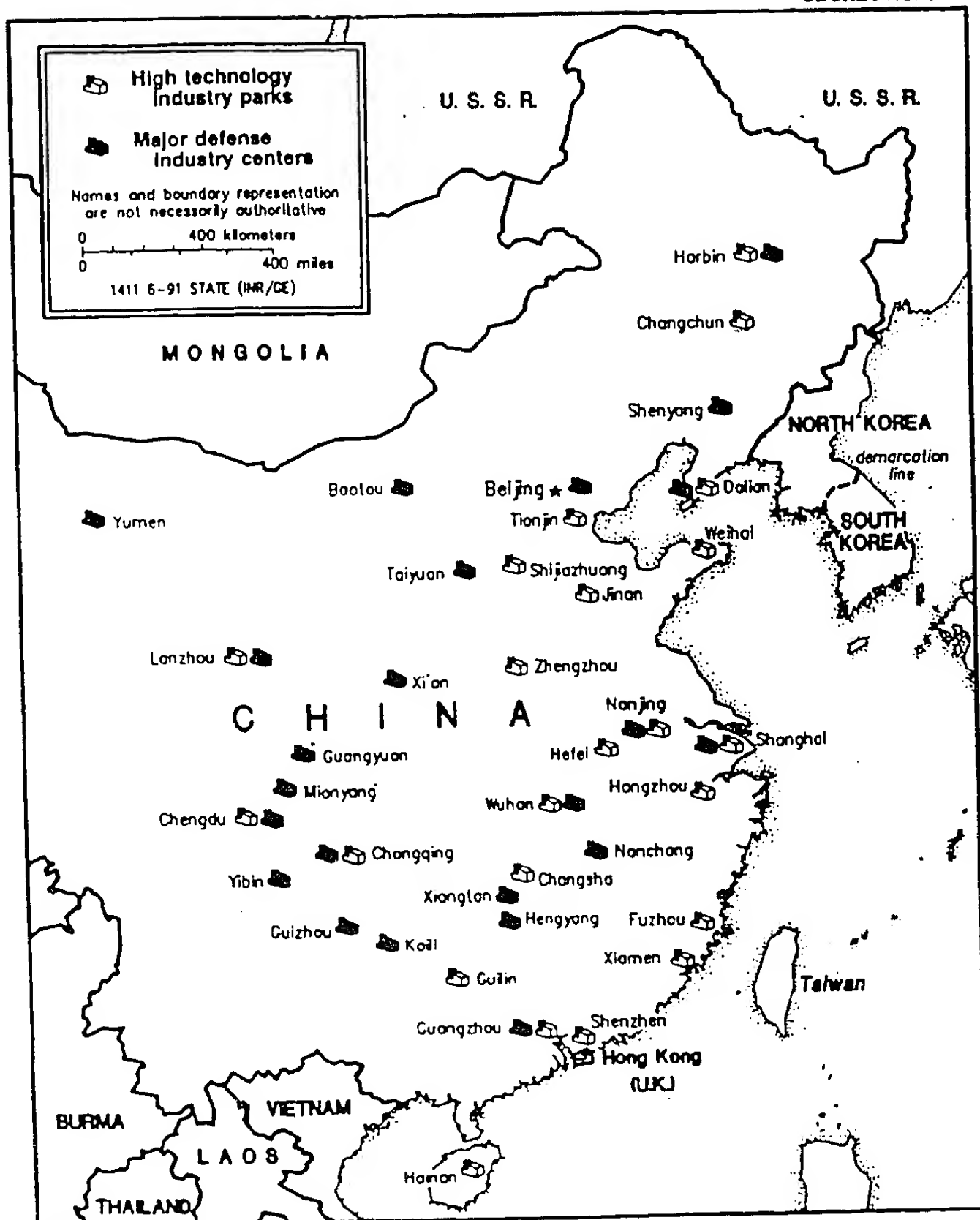
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advantage of the large concentration of defense industries there, while zones in south-central China will take advantage of that area's aviation and space industries, according to Embassy Beijing.

Through the "highly sensitive" 863 program—established in March 1986, hence the 86/3 designator—Beijing seeks to narrow the S&T gap with advanced countries by the year 2000. The program, which involves many military S&T facilities, centrally coordinates priority technologies in an effort to accelerate their development and application for commercialization as well as new weapons development. The priority technologies—all dual use—are: space, lasers, biotechnology, information systems, automation, high-energy sources, and advanced materials.

Although 863 is designed to support both military and commercial applications of new technology, the defense sector was assured priority when the program was established, a policy underscored by Beijing since the Gulf war. According to conversion officials, defense industry managers are eager to participate in both Torch and 863 because these programs provide improved access to funds for research, retooling, marketing assistance, and help with exports.

### Results Paying Off

The 70-percent civilian and 30-percent military ratio of defense industry output is corroborated by the sector's sixfold increase in production of civilian goods in the first decade of conversion: from \$700 million in 1979 to \$4.7 billion in 1989. Civilian exports are estimated to have grown about 20 percent annually in recent years. TVs, radios, electronic components, toys, hand tools, electric appliances, kitchenware, and textiles have been important factors in the dramatic rise in China's foreign sales, especially to the US. About 30 percent of defense industry exports are in rapidly growing, technology-intensive areas, where the Torch program is expected to spur export growth even further.


### Problems Remain

Jin Zhude sees lack of funds for retooling as a continuing stumbling block in China's conversion program. The state does make loans to military plants that want to switch production, but such financing is insufficient. Jin's hope is that China's large supply of highly trained, low-wage defense industry personnel will attract foreign investors, who will gear their products for export, especially in electronics and household appliances.

The focus is on exports because civilian industry can now meet domestic demand for many consumer products. Exports generate hard currency which can be reinvested to promote modernization.

Civilian plants, according to Jin Zhude, bitterly oppose new competition from military factories, especially in machine building and electronics where the defense sector has strong capabilities. For example, last year the premier Changhong TV plant—an important military electronics producer—sharply reduced prices in order to move excess inventory. This outraged domestic competitors who appealed—to no avail—to the state pricing authorities in Beijing to stop the discounting. Clearly, China's consumers stand to benefit from lower prices as conversion progresses.

### Mentor Learning From Student?

 The extent to which Soviet defense-industrial leaders are already philosophically attuned to Beijing's type of state-administered restructuring is apparent in the following similarities in their approach:

- Reduce the strategic threat perception; cut defense spending and weapons production.
- Centrally control conversion policy and implementation.

- Continue state direction of strategic industries.
- Strip away secrecy from weapons facilities and technologies.
- Integrate civilian ministries with defense industry.
- Encourage defense-to-civilian technology transfer.
- Keep military production lines "warm" or "laid away" through "diversification."
- Retain defense industry's priority access to materials.
- Subsidize financially weak defense plants.
- Seek foreign financial and technical involvement.

The USSR's defense industry and ministerial bureaucracy are much larger than China's, however, and the resistance of Soviet defense managers to change is proportionately stronger. Chinese defense managers also have had a relatively successful civilian model to follow, whereas their Soviet counterparts still see few economic reasons to push conversion.

### USSR Faces the Inevitable

As Moscow makes sharper cuts in weapons procurement, Soviet defense managers will have little choice but to civilianize their product lines. If the Chinese model is followed, the heavyhanded Soviet ministerial hierarchy will have to be overhauled. Gorbachev already has suggested that, as economic reforms progress, these ministries will be slimmed down and transformed into purely policy-setting institutions with little operational control. At the same time, defense managers will have to be granted much greater authority in running their enterprises.

### A Soviet Advantage?

If political and economic reforms in the USSR result in a high degree of local autonomy under a new Union treaty—and if large-scale foreign lending

## **China's Conversion Apparatus**

The key organizations responsible for coordinating and implementing conversion policies are:

- Commission on Science, Technology, and Industry for National Defense (COSTIND);
- State Planning Commission (SPC);
- State Science and Technology Commission (SSTC); and
- High-Technology Plan Coordination Group.

Three streamlined ministries—Energy Resources, Machine Building and Electronics, and Aerospace—were formed in the mid-1980s to implement conversion. Subordinate to the State Council, these new ministries have broad policy-enforcement and monitoring responsibilities over their affiliated civil and military plants (see chart, p. 7). Day-to-day operational control varies by ministry but in most cases is relatively limited. The ministries' primary role has been to provide direction, financing, and domestic and foreign contacts. They also monitor numerous "trade corporations" that were created to support the import and export needs of the plants.

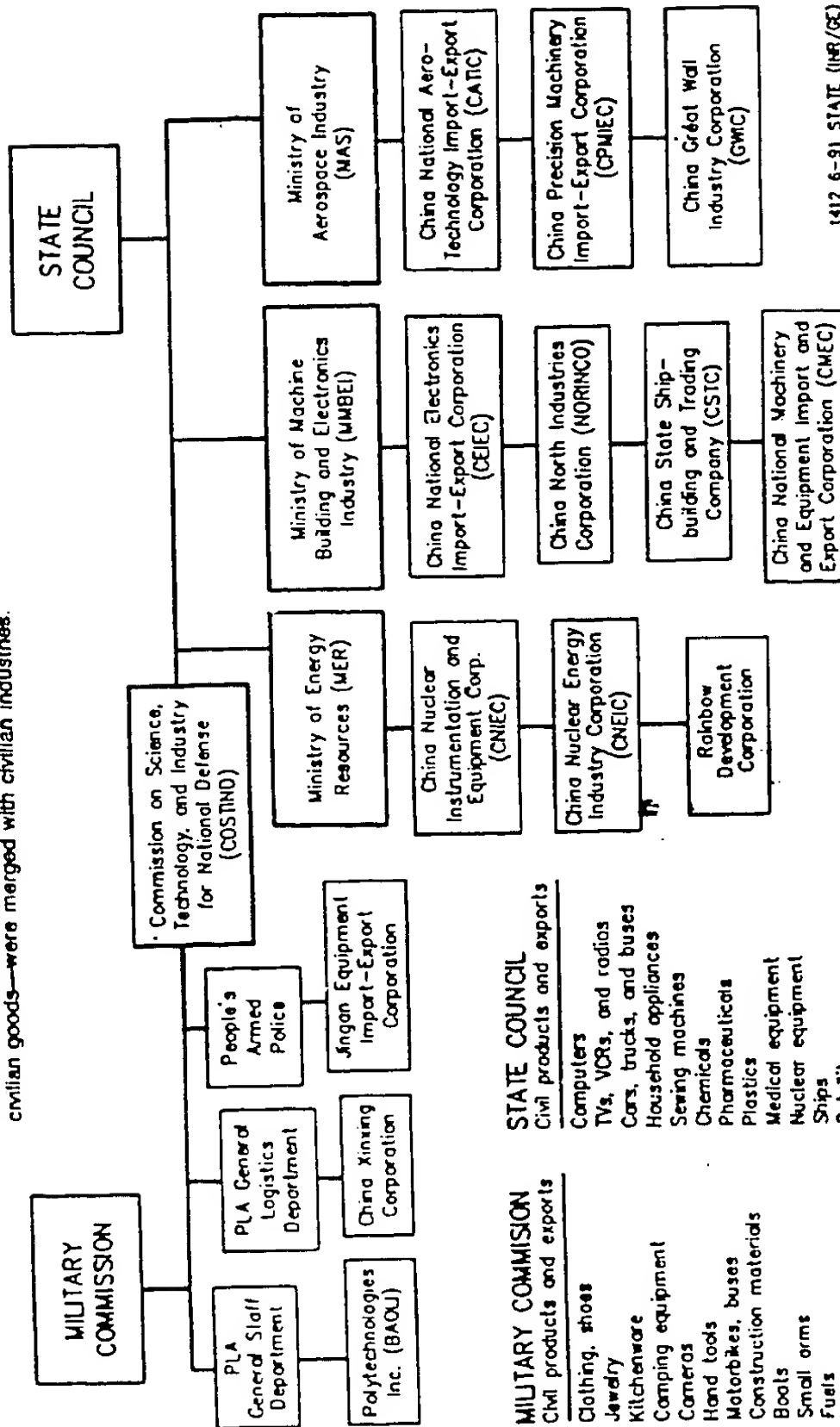
Several hundred additional plants are under the direct control of the People's Liberation Army (PLA), which is subordinate to the Military Commission.

The three new ministries and COSTIND are breaking down the defense industry's wall of secrecy by promoting cross-sectoral information exchanges, the publication of journals devoted exclusively to conversion, and exhibitions at home and abroad.

An important player in the process is the China Association for Peaceful Use of Military Industrial Technologies (CAPUMIT). According to General Director Jin Zhude, CAPUMIT is a "non-governmental" organization which helps coordinate conversion policies among various organizations in the Chinese Government. Its advisory council, however, is composed of the vice ministers of the key state organizations responsible for economic and defense policy, including COSTIND's deputy director, Hual Guomo.

# The Conversion of China's Defense Industry

There are two military-industrial hierarchies. The primary one is headed by the State Council and includes three super-ministries. The other is headed by the Military Commission and oversees plants under the direct control of the People's Liberation Army. A Commission on Science, Technology, and Industry for National Defense coordinates overall trade policy, R&D, and production as it affects the military sectors. This structure is the result of a decade of conversion during which the six "Soviet-modeled" defense industrial ministries—about 20 percent of whose production was civilian goods—were merged with civilian industries.





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and investment become a reality—the USSR's conversion might face fewer obstacles than China's. Soviet defense plants, the military R&D system, and the country's overall economic infrastructure are clearly superior to those in China a decade ago. Although many plants are located beyond the Urals in defense "company towns," they are not nearly as isolated as China's "third tier."

Moreover, there are hundreds of major plants in Moscow, Leningrad, and other industrial cities far closer to potential domestic and international markets than in China's case. Even in the current unsettled environment, some Soviet defense managers have been pursuing Western technology, capital investment, loans, and joint ventures because they see access to international markets as the key to successful conversion.

(R. L. Davis, INR/EC)

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